

Claims

1. Method for producing a strong bond between two layers (2, 6) of a multilayer system, characterized in that anchors (9) are embedded in at least one of the two layers (6).

2. Method according to Claim 1, characterized in that the anchors (9) are embedded in the second layer (6) and in an intermediate layer (1) provided between the first layer (2) and the second layer (6).

3. Method according to Claim 2, characterized by the following steps of the method:

- An intermediate layer (1) is applied, at least partially, to the first layer (2);
- A plurality of contact holes (3) are pierced in the intermediate layer (1);
- The contact holes (3) are filled with an adhesive compound (4);
- The intermediate layer is stripped down to a specifiable minimum thickness, so that anchors (9) formed from the adhesive compound (4) protrude from the contact holes (3) of the intermediate layer (1);
- The second layer (6) is applied to the intermediate layer (1), with the anchors (9), strongly anchored to the intermediate layer (1) and formed from the adhesive compound (4), bonding the second layer (6) strongly to the intermediate layer (1).

4. Method according to Claim 3, characterized in that the cross-sectional area of a contact hole (3) in the intermediate layer (1) increases or decreases from one end to the other.

5. Method according to Claim 4, characterized in that the cross-sectional area of a contact hole (3) increases from the first layer (2) to the second layer (6).

6. Method according to Claim 4 or 5, characterized in that the contact holes (3) have a conical, dovetail, or similar shape.

7. Method according to one of Claims 3 to 6, characterized in that the contact holes (3) are pierced in the intermediate layer (1) by an etching process or a photographic process.

8. Method according to one of Claims 3 to 7, characterized in that excess adhesive compound (5) issuing from the intermediate layer (1) is etched away before the stripping of the intermediate layer (1) down to the minimum thickness.

9. Method according to one of Claims 3 to 8, characterized in that the intermediate layer (1) is stripped down to the minimum thickness by an etching process or a photographic process.

10. Method according to one of Claims 3 to 9, characterized in that there is at least one region (8) free of the intermediate layer (1), in which region the first layer and the second layer (2, 6) directly adjoin one another.

11. Method according to one of Claims 3 to 10, characterized in that for the adhesive compound (4) there is a material that enters into a strong physical or chemical bond with the first layer (2) or with the second layer (6).

12. Method according to one of Claims 3 to 11, characterized in that the diameter of the contact holes (3) lies in a range between 100 and 1000 nm.

13. Method according to one of Claims 3 to 12, characterized in that the spacing of the contact holes (3) is between 100 and 1000 nm.

14. Method according to one of Claims 3 to 13, characterized in that the anchors protrude between 20 and 500 nm from the intermediate layer (1).

15. Method according to one of Claims 1 to 14, characterized in that the layer thicknesses are 100 to 1000 nm.

16. Method according to one of Claims 1 to 15, characterized in that the intermediate layer (1) is a dielectric.

17. Multilayer system made up of at least a first layer (2) and a second layer (6), characterized in that, embedded in at least one of the two layers (6), are anchors (9).

18. Multilayer system according to Claim 17, characterized in that the anchors (9) are embedded in the second layer (6) and in an intermediate layer (1) lying between the first layer (2) and the second layer (6).

19. Multilayer system according to Claim 18, characterized in that the intermediate layer (1) is applied, at least partially, to the first layer (2); that a plurality of contact holes (3) are pierced in the intermediate layer (1); that the contact holes (3) are filled with an adhesive compound (4); that the intermediate layer (1) is stripped down to a specifiable minimum thickness so that anchors (9) formed from the adhesive compound (4) protrude from the contact holes (3) of the intermediate layer (1); that the second layer (6) is applied to the intermediate layer (1), with the anchors (9), strongly bonded to the intermediate layer (1) and formed from the

adhesive compound (4), bonding the second layer (6) strongly to the intermediate layer (1).

20. Multilayer system according to Claim 19, characterized in that the cross-sectional area of a contact hole (3) in the intermediate layer (1) increases or decreases from one end to the other end.

21. Multilayer system according to Claim 20, characterized in that the cross-sectional area of a contact hole (3) increases from the first layer (2) to the second layer (6).

22. Multilayer system according to Claim 20 or 21, characterized in that the contact holes (3) have a conical, dovetail, or similar shape.

23. Multilayer system according to one of Claims 19 to 22, characterized in that the contact holes (3) are pierced in the intermediate layer (1) by an etching process or a photographic process.

24. Multilayer system according to one of Claims 19 to 23, characterized in that excess adhesive compound (5) issuing from the intermediate layer (1) is etched away before the stripping of the intermediate layer (1) down to the minimum thickness.

25. Multilayer system according to one of Claims 19 to 24, characterized in that the intermediate layer (1) is stripped down to the minimum thickness by an etching process or a photographic process.

26. Multilayer system according to one of Claims 19 to 25, characterized in that there is at least one region (8) free of the intermediate layer (1), in which region the first layer and the second layer (2, 6) directly adjoin one another.

27. Multilayer system according to one of Claims 19 to 26, characterized in that, for the adhesive compound, there is a material that enters into a strong physical or chemical bond with the first layer (2).

28. Multilayer system according to one of Claims 19 to 27, characterized in that the diameter of the contact holes (3) lies in a range between 100 and 1000 nm.

29. Multilayer system according to one of Claims 19 to 28, characterized in that the spacing of the contact holes (3) is between 100 and 1000 nm.

30. Multilayer system according to one of Claims 19 to 29, characterized in that the anchors (9) protrude between 20 and 500 nm from the intermediate layer (1) stripped down to the minimum thickness.

31. Multilayer system according to one of Claims 17 to 30, characterized in that the layer thicknesses are 100 to 1000 nm.

32. Multilayer system according to one of Claims 17 to 31, characterized in that the intermediate layer (1) is a dielectric.